DOCUMENT RESUME

ED 311 622 EC 221 028

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TITLE Critical Variables in Training Early Childhood Special Educators.
PUB DATE Apr 89
NOTE 19p.; Paper presented at the Annual Convention of the Council for Exceptional Children (67th, San Francisco, CA, April 3-7, 1989).
PUB TYPE Speeches/Conference Papers (150) -- Information Analyses (070)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Adult Learning; *Curriculum Design; *Disabilities; *Early Childhood Education; *Inservice Teacher Education; Postsecondary Education; *Special Education Teachers; Staff Development; Teaching Methods; Training

ABSTRACT

This paper attempts to identify critical variables for designing training programs in early childhood special education. A literature review is presented on training and the adult learner. Important characteristics of training are identified, such as the course design, sequence, content, and adult learning strategies used. Other significant factors include the educational level, self-concept, personal commitment to growth, and cognitive flexibility of the trainees. Size of group, location, duration, and scheduling were not found to significantly influence training. Research on the adult learner has identified assumptions that differentiate adults and children as learners, focusing on self-concept, time perspective, readiness to learn, previous experiences, etc. Training methods found to be useful with adult learners include checklist training, feedback, micro-teaching, mentoring, coaching, demonstration, modeling, observation, practice, and video-audio feedback. Figures include a flowchart depicting the relationship between training and other important variables; a summary of the highlights of research on staff development; examples of training methods; a list of critical variables in training; and the relationship between the training event, the mediating variables, and training effectiveness. (JDD)

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Critical Variables in Training

Early Childhood Special Educators

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Running head: CRITICAL VARIABLES

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Abstract

The purpose of this paper is to identify critical variables for designing training in Early Childhood Special Education. The paper will also present a literature review on training and a rationale for the training methods and outcomes under discussion. Identifying critical variables is important for several reasons. There is a great need to coordinate research and share data across programs in order to draw conclusions about the efficacy of training. The important relationships between many of these variables have an effect on training. Information gathered from existing programs will enable professionals to design more effective training for Early Childhood Special Education professionals which will, in turn, result in better services for young handicapped children and their families.

Critical Variables in Training

Early Childhood Special Educators

What are the critical variables of training? This question is an important one to trainers, administrators, and program developers. Characteristics of trainees, characteristics of trainers, program philosophy, program characteristics, program design, content, and training methods are all important variables in training. It is also important to describe training events in terms of content and process. This paper will discuss the existing literature on training. Particular emphasis will be given to identifying the critical variables in training. Most of this information is from literature in the regular education field.

With the passage of P.L. 99-457 there is a great need for trained personnel in Early Childhood Special Education. Generally, the training methods used in the field are not well researched or well-designed. There is a great need to do research and improve training effectiveness in the field. Three meta-analyses of research on teacher training in regular education provide some information about training effectiveness. These studies will be summarized in this paper and critical variables will be identified.

The relationships between some of these variables are shown in Figure 1. Some important characteristics of the training are the

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Insert Figure 1 about here

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design, sequence, content, and adult learning strategies used in

training. It is also important to collect data about the educational level, self-concept, personal commitment to growth, and cognitive flexibility of the trainees. The ability of the trainees to adapt and transfer skills learned to their classroom is essential. The trainer has characteristics which can either inhibit or facilitate successful training. Management personnel and the program philosophy of the school or agency may also indirectly or directly influence training. The next section is a literature review which discusses training and adult learning.

Literature Review

Training

The traditional training activity of one session of staff development in the form of a workshop is seen as ineffective (Sparks, 1983). It is much more effective to space out training events in four to six three-hour workshops which are spaced two or three weeks apart. This design is preferable because it allows trainees an opportunity to try and refine new information (Sparks, 1983).

A meta-analysis (Wade, 1985) presented some interesting findings about significant variables across 91 studies and 715 data sets. The variables which were not significant were size of group, scheduling, location, and duration of training. Incentives such as earning college credit seem to be significant in training. The structure of training which seems most effective is independent study (Wade, 1985). The most effective instructional techniques are combinations of observation, micro-teaching, video-audio feedback, and practice. Grouping types of instruction in various ways were

all effective: lecture, discussion, modeling, practice, coaching; lecture, modeling, practice and coaching; and lecture, discussion, modeling, video-audio feedback, and coaching (Wade, 1985).

Some conclusions from the Showers, Joyce, and Bennett (1987) study specify other interesting findings. The training design is very important for successful training. Also the conceptual flexibility of the trainees has a significant impact on the success of training and how well trainees can adapt and apply information gained through training (Showers, Joyce, and Bennett, 1987). The self-concept of the trainees also has an influence on training effectiveness.

From this information we can draw the following conclusions:

- Much time and effort needs to be spent on developing the training structure and design for optimum effects.
- Training processes based soundly on adult learning theory are essential.
- Several training processes utilized with trainees over time are most effective. An example of this type of training episode would be lecture, discussion, modeling, practice, and coaching sessions which are spaced out over 3-4 weeks.
- Incentives such as earning credits positively influence training.
- Any traditional training method such as a workshop needs to include some follow-up activities spaced over weeks or months to allow trainees time to try out new ideas.
- Cognitive flexibility of the trainees is important in applying knowledge.

- Size of group, location, duration, and scheduling do not significantly influence training. Data may not need to be collected on these.

Figure 2 summarizes some of the highlights of the research on staff development (Showers, Joyce, and Bennett, 1987).

Insert Figure 2 about here

The next section on adult learning provides some background information about the processes of training which are widely recognized as effective with adult learners. The use of these processes helps to ensure that training will be effective.

Adult Learning

Research on adult learning provides the theoretical basis for the use of adult learning strategies (Knowles, 1972, 1984) since adults learn differently than children. There are nine crucial assumptions that differentiate adults and children as learners:

- The adult's self-concept moves from dependency to self-direction.
- The adult accumulates a growing reservoir of experience that becomes an increasing resource for learning.
- The adult's readiness to learn becomes oriented increasingly to the developmental tasks of his or her social roles.
- The adult's time perspective changes from one of postponed application of knowledge to immediacy of application. Accordingly, his or her orientation toward learning shifts from subject centeredness to problem centeredness (Sakata, 1984).

- Since adults come to a training effort with varied previous experiences, the trainer must be able to apply a variety of educational approaches to meet the unique needs and cognitive styles of trainees.
- The use of a variety of instructional methods is important if training is to be effective. It is suggested that at least three different techniques be used within a given training session for optimal learning to occur.
- Immediate application of material to a current situation or specific example can establish meaningfulness and recall among trainees.
- Learning will be facilitated if materials and training are designed and implemented in response to assessed needs, interests, and strengths of the trainees.
- Learning will be facilitated if the trainer recognizes and utilizes the knowledge and experience of the adult in the training session.

Training methods need to exemplify adult learning strategies. Some of these strategies are: checklist training, feedback, micro-teaching, mentoring, coaching, demonstration, modeling, observation, practice, and video-audio feedback. Figure 3 gives some examples of training methods and their relationship to adult learning theory.

Insert Figure 3 about here

The training processes shown in Figure 3 were identified from the most current literature on training. It is important to describe

and identify the processes used by trainers in training research. Describing the various techniques and processes used in training will contribute greatly to the evaluation of training programs.

At the Family, Infant and Preschool Program we are collecting data across several training projects based on Figure 4. This list

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Insert Figure 4 about here

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summarizes the data we collect across programs to ascertain the effectiveness of training. Since all programs collect information on these variables, we can aggregate data.

Figure 5 shows the relationship between the training event, the

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Insert Figure 5 about here

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mediating variables (trainee characteristics and trainer characteristics), and training effectiveness or outcomes of training. The training event includes a needs assessment phase and the presentation of content using various training methods. The needs assessment phase takes into account characteristics of the children, families, and the program in which the trainees work. If trainers do not take these variables into account, the training will be less effective. The content portion of the training event includes the instructional goals for knowledge, gains in skills, or improved attitudes. Training processes are the ways in which content is delivered and are based on adult learning theory. Trainer and trainee characteristics are the mediating variables which influence how trainees will utilize the training and

characteristics of the trainer which facilitate learning. Training effectiveness can be measured by increased knowledge, usefulness of training, change in attitudes, or improved skills. Any of these effectiveness variables are appropriate, but a program will probably only address one or two dimensions. This outcome will dictate which type of content and processes will be used with trainees.

When designing inservice training, the following question needs to be addressed: What is the goal of training? Increased knowledge is usually considered a reasonable outcome. But is increased knowledge all we want to provide for trainees? Increased skills in working with children and families is often the desired outcome of training. The development of skills requires a plan of sequenced experiences which will help trainees develop needed skills through demonstration, coaching, checklists, and structured feedback. Even if the outcome of training is to change the attitudes of trainees, a planned sequential training program will be developed with that goal in mind. Often in inservice training the goal is not identified. It is crucial to identify goals of training because this dictates the content which will be used. This essential step ensures that an appropriate evaluation of training effectiveness can be carried out.

Conclusion

This paper has discussed training methods, processes, and critical variables in training Early Childhood Special Educators. The identification of these variables will enable programs to collect parallel data which then can be analyzed to ascertain the effectiveness of training episodes. The results of this analysis

will be extremely important in drawing conclusions about the important aspects of training Early Childhood Special Educators.

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Figure Captions

Figure 1. Flowchart depicting the relationship between training and other important variables.

Figure 2. Summary of the highlights of research on staff development.

Figure 3. Examples of training methods and their relationship to adult learning.

Figure 4. List of critical variables in training.

Figure 5. Relationship between the training event, the mediating variables, and training effectiveness.

Figure 1

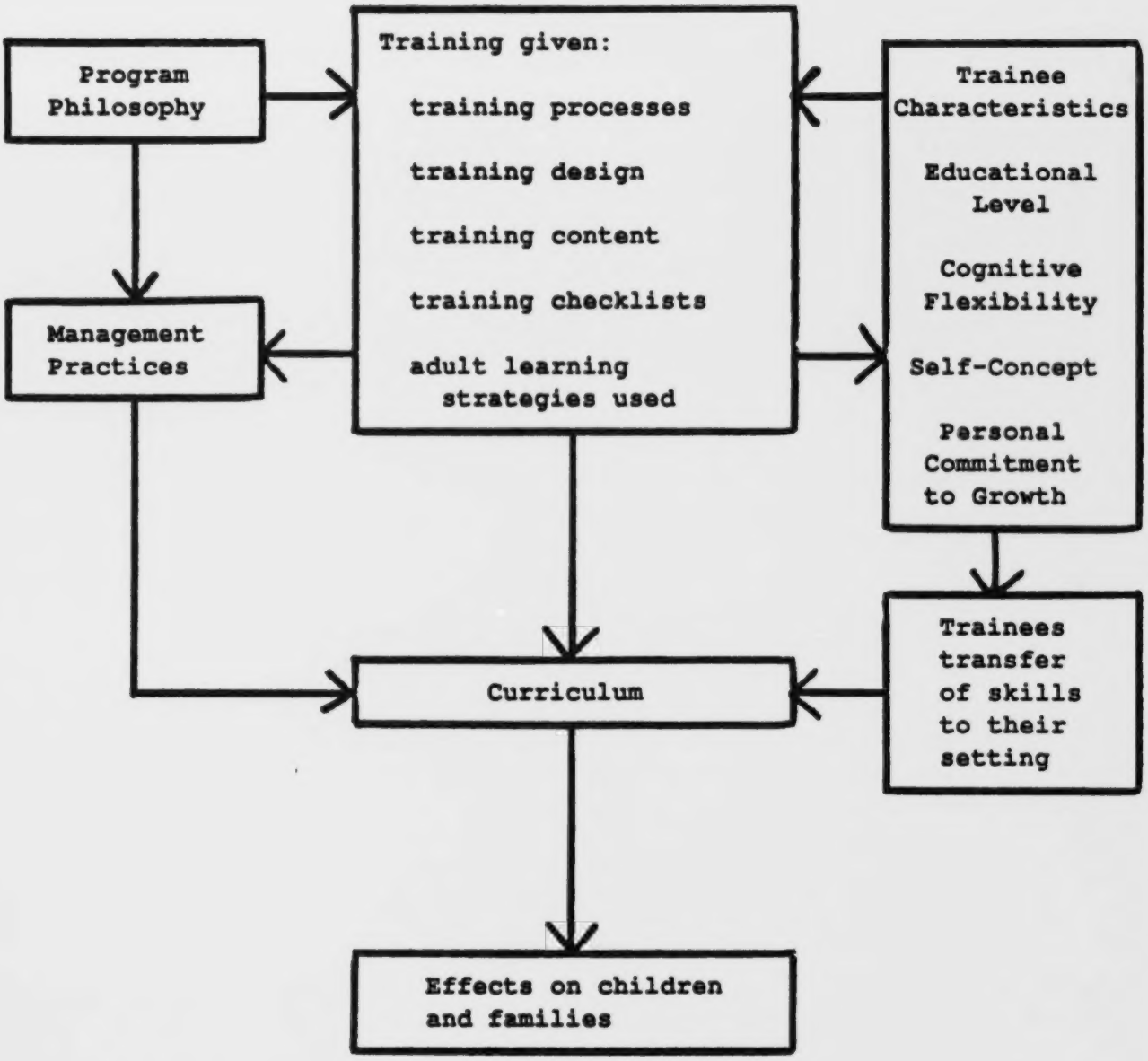

Program Philosophy
Training given:
training processes
training design
training content
training checklists
adult learning strategies used
Trainee Characteristics
Educational Level
Cognitive Flexibility
Self-Concept
Personal Commitment to Growth
Management Practices
Curriculum
Trainees transfer of skills to their setting
Effects on children and families

Figure 2

Highlights of Research on Staff Development

A meta-analysis of nearly 200 research studies, plus a review of the literature on staff development, shows that:

- What the teacher *thinks* about teaching determines what the teacher *does* when teaching. In training teachers, therefore, we must provide more than "going through the motions" of teaching.
- Almost all teachers can take useful information back to their classrooms when training includes four parts: (1) presentation of theory, (2) demonstration of the new strategy, (3) initial practice in the workshop, and (4) prompt feedback about their efforts.
- Teachers are likely to keep and use new strategies and concepts if they receive coaching (either expert or peer) while they are trying the new ideas in their classrooms.
- Competent teachers with high self-esteem usually benefit more from training than their less competent, less confident colleagues.
- Flexibility in thinking helps teachers learn new skills and incorporate them into their repertoires of tried and true methods.
- Individual teaching styles and value orientations do not often affect teachers' abilities to learn from staff development.
- A basic level of knowledge or skill in a new approach is necessary *before* teachers can "buy in" to it.
- Initial enthusiasm for training is reassuring to the organizers but has relatively little influence upon learning.
- It doesn't seem to matter where or when training is held, and it doesn't really matter what the role of the trainer is (administrator, teacher, or professor). What does matter is the training design.
- Similarly, the effects of training do not depend on whether teachers organize and direct the program, although social cohesion and shared understandings do facilitate teachers' willingness to try out new ideas.

(Showers, Joyce, and Bennett, 1987)

Figure 3

Training Processes	Adult Learning Theory
checklist training	concrete learning experiences
discussion	group experiences
feedback	self-growth
demonstration/modeling	learning style autonomy
mentoring/coaching	learning style
micro-teaching	concrete learning experiences
observation	internal motivation
video-audio feedback	self-growth

Figure 4

Critical Variables

Trainee Characteristics

- education
- experience
- age
- discipline/profession
- background
- self-concept
- sex
- personal commitment to growth
- conceptual flexibility

Program Characteristics

- philosophy/mission/goals
- funding
- services/HB/CB/combo.
- parent involvement-family focus
- integrated or not
- schedule
- curriculum
- trans/multi/ or interdisciplinary
- rural/urban

Characteristics of Kids

- ages
- handicaps
- SES
- sex
- severity of population

How Kids Are Taught

- structured/behavioral
- functional
- traditional
- free play
- combinations
- HB/CB/combo

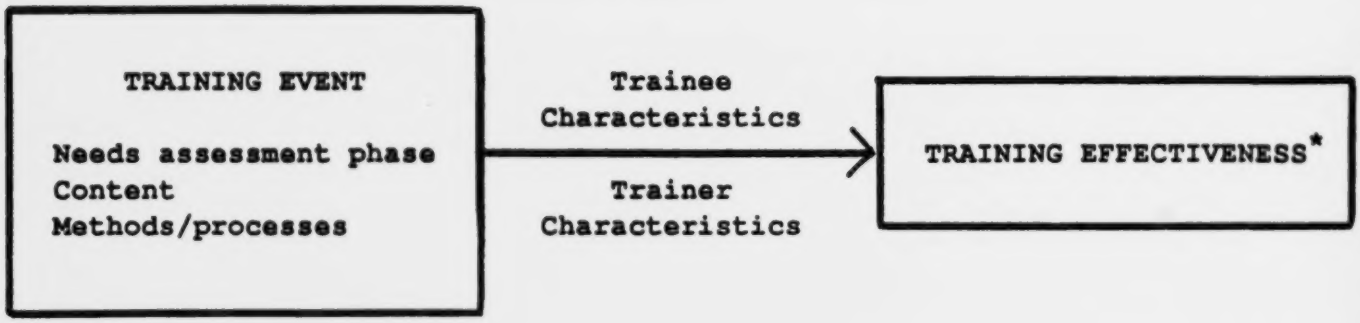
Trainer Characteristics

- education
- age
- experience
- values
- self-concept
- sex
- profession

Characteristics of Training Given

- design/objectives/needs
- courses taken
- checklists
- portfolio
- content, application, follow-up
- adult learning strategies used: theory, demonstration/practice, coaching, mentoring, follow-up, feedback
- technology used

Figure 5



*How useful was the training?
Did the trainees gain knowledge?
Did the training change perceptions or attitudes?
Can the trainees perform new or improved skills?